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Winter 2008

### CEG 860-01: Object-Oriented Programming

Krishnaprasad Thirunarayan

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# CEG 860 Object-Oriented Programming

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- **Instructor:** T. K. Prasad
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- **Email:** [t.k.prasad@wright.edu](mailto:t.k.prasad@wright.edu)
- **Home Page:** <http://www.cs.wright.edu/~tkprasad>
- **Quarter:** Winter, 2008
- **Class Hrs:** Tu Th, 6:05pm to 7:20pm, 193 Joshi.
- **Office Hrs:** Tu Th, 5pm to 6pm. 395 Joshi Research Center (or by appointment)

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## Course Objective

- To study the *why*, *what*, and *how* of Object-Oriented Programming.

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## Course Prerequisite

- CEG 760 Software Engineering

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## Course Description

This course motivates the need for object-oriented programming, and studies, in detail, object-oriented programming techniques, languages, and technology. The lectures will focus on the foundations of OOP, while the student presentations will focus on the applications and extensions of Object Technology.

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## Course Load

The course load includes programming assignments (in Java) and a presentation (with descriptive notes) worth 40 points, a midterm worth 30 points, and a final worth 30 points.

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## Texts

- Bertrand Meyer: *Object-Oriented Software Construction*. 2nd Edition. Prentice Hall, 1997. ISBN 0-13-629155-4
- Clemens Szyperski *et al*: *Component Software: Beyond Object-Oriented Programming*. 2nd Edition. Addison-Wesley, 2002. ISBN 0-201-74572-0

## Reference

- Timothy Budd: *Introduction to Object-Oriented Programming*. 3rd Ed. Addison-Wesley, 2002. ISBN: 0-201-76031-2
- The Links Galore
- Garbage Collection
- K. Thirunarayan, G. Kniesel, and H. Hampapuram, Simulating Multiple Inheritance and Generics in Java, In : *Computer Languages*, Vol. 25(4), pp. 189-210, 2001.

## Grading

The letter grades will be assigned using the following scale: A[90-100], B[80-90), C[70-80), D[60-70), and F[0-60). However, I reserve the right to adjust the scale somewhat to utilize the gaps in the distribution.

## Class Schedule and Syllabus

| Topic    |  |
|----------|--|
| Class 0  | <u>Software Hell</u><br><u>Bug Bites</u>     |
| Class 0  | <u>Professional Responsibility</u>           |
| Class 1  | <u>Motivation : Software Quality</u>         |
| Class 2  | <u>Intro. to OOP ; OOP by Examples</u>       |
| Class 3  | (* cont *)                                   |
| Class 4  | <u>Modularity; Reusability</u>               |
| Class 5  | <u>Classes ; Genericity</u>                  |
| Class 6  | <u>Objects ; Garbage Collection</u>          |
| Class 7  | (* cont *)                                   |
| Class 8  | <u>Design by Contract; Exceptions</u>        |
| Class 9  | <u>Inheritance; Dynamic Binding</u>          |
| Class 10 | <u>Composition; Delegation</u>               |
| Class 11 | <u>Multiple Inheritance ; Implementation</u> |
| Class 12 | <u>Inheritance Techniques</u>                |
| Class 13 | <b>Midterm (February 5)</b>                  |
| Class 14 | Talk 1: 2/26 : TBA                           |
| Class 15 | Talk 2: 2/28 : TBA                           |
| Class 16 | Talk 3: 3/04 : TBA                           |
| Class 17 | Talk 4: 3/06 : TBA                           |
| Class 18 | Talk 5: 3/11 : TBA                           |

Talk 6: 3/13 : TBA

(\*WRAP-UP\*)

**Finals (March 20, 8pm-10pm)**

## Extra Design Patterns and Frameworks

## Extra Abstract Data Types

## Extra Program Correctness

## Assignments ( Winter 08 )

- Assignment 1.
- Assignment 2.

## Exams ( winter 07 )

- Midterm.
- Final.

*T. K. Prasad ( 07 Jan 2008 )*